Active Galectin 9 (GAL9)

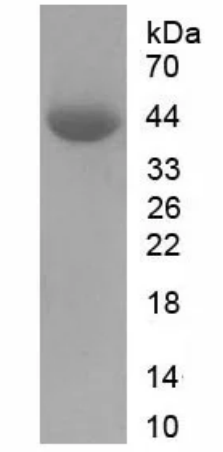
Catalog#:PEH12332

概述（Summary）

别称（Alternative Names）	LGALS9; Ecalectin; Lectin,Galactoside-Binding Soluble 9; Tumor antigen HOM-HD-21
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Met1-Thr323】
Accession #	O00182
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	39.6 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Binds galactosides. Has high affinity for the Forssman pentasaccharide. Ligand for HAVCR2/TIM3. Binding to HAVCR2 induces T-helper type 1 lymphocyte (Th1) death. Also stimulates bactericidal activity in infected macrophages by causing macrophage activation and IL1B secretion which restricts intracellular bacterial growth. Ligand for P4HB; the interaction retains P4HB at the cell surface of Th2 T-helper cells, increasing disulfide reductase activity at the plasma membrane, altering the plasma membrane redox state and enhancing cell migration. Ligand for CD44; the interaction enhances binding of SMAD3 to the FOXP3 promoter,

leading to up-regulation of FOXP3 expression and increased induced regulatory T (iTreg) cell stability and suppressive function. Promotes ability of mesenchymal stromal cells to suppress T-cell proliferation. Expands regulatory T-cells and induces cytotoxic T-cell apoptosis following virus infection. Activates ERK1/2 phosphorylation inducing cytokine (IL-6, IL-8, IL-12) and chemokine (CCL2) production in mast and dendritic cells. Inhibits degranulation and induces apoptosis of mast cells. Induces maturation and migration of dendritic cells. Inhibits natural killer (NK) cell function. Can transform NK cell phenotype from peripheral to decidual during pregnancy. Astrocyte derived galectin-9 enhances microglial TNF production. May play a role in thymocyte-epithelial interactions relevant to the biology of the thymus. May provide the molecular basis for urate flux across cell membranes, allowing urate that is formed during purine metabolism to efflux from cells and serving as an electrogenic transporter that plays an important role in renal and gastrointestinal urate excretion. Highly selective to the anion urate.; Acts as an eosinophil chemoattractant. It also inhibits angiogenesis. Suppresses IFNG production by natural killer cells.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

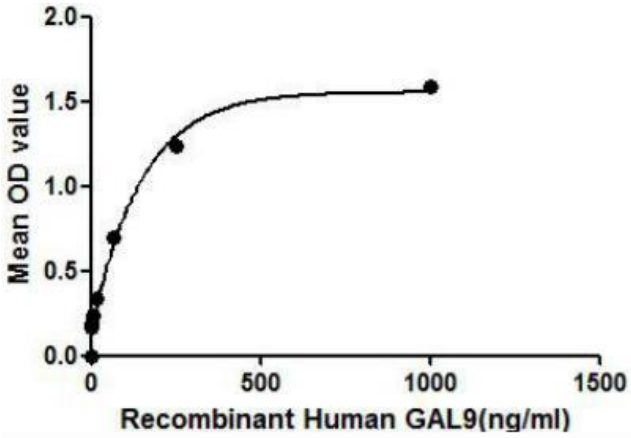


Figure 2. The binding activity of GAL9 with PDI

GAL9 (Galectin-9) belongs to the galectin family, which is defined by their binding specificity for β-galactoside sugars, such as N-acetyllactosamine (Galβ1-3GlcNAc or Galβ1-4GlcNAc). It is reported that GAL9 induces T-helper type 1 lymphocyte (Th1) death by binding to HAVCR2 (Hepatitis A virus cellular receptor 2); besides, the interaction between GAL9 and PDI (Protein disulfide-isomerase) leads to disulfide reductase activity increasing at the plasma membrane, therefore alters the plasma membrane redox state and enhances cell migration. Thus a binding ELISA assay was conducted to detect the interaction of recombinant human GAL9 with recombinant human HAVCR2 and recombinant human PDI separately. Briefly, GAL9 were diluted serially in PBS, with 0.01%BSA (pH 7.4). Duplicate samples of 100uL were then transferred to HAVCR2-coated and PDI-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-GAL9 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of GAL9 with HAVCR2 and PDI were shown in Figure 1 and Figure 2, and this effect was in a dose dependent manner.

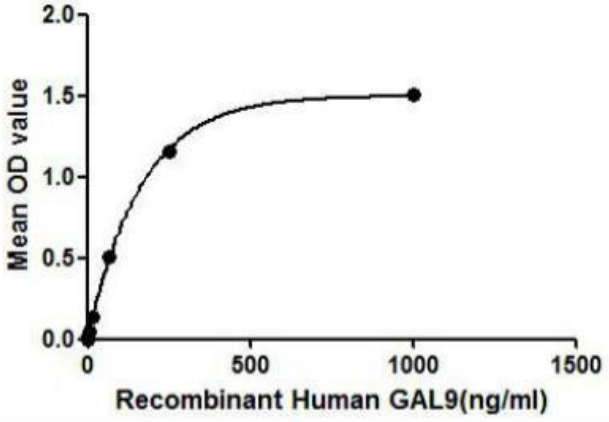


Figure 1. The binding activity of GAL9 with HAVCR2

注意事项（Note）

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